

# FLOOR UNIT OPERATION MANUAL

HFU-09HA03(B)/R1

HFU-12HA03(B)/R1

HFU-09H03/R2(DB)

HFU-12H03/R2(DB)

HFU-18H03/R2(DB)

- Please read this operation manual before using the air conditioner.

No.0010557172

# Cautions

## Disposal of the old air conditioner

Before disposing an old air conditioner that goes out of use, please make sure it's inoperative and safe. Unplug the air conditioner in order to avoid the risk of child entrapment.

It must be noticed that air conditioner system contains refrigerants, which require specialized waste disposal. The valuable materials contained in an air conditioner can be recycled. Contact your local waste disposal center for proper disposal of an old air conditioner and contact your local authority or your dealer if you have any question. Please ensure that the pipework of your air conditioner does not get damaged prior to being picked up by the relevant waste disposal center, and contribute to environmental awareness by insisting on an appropriate, anti-pollution method of disposal.

## Disposal of the packaging of your new air conditioner

All the packaging materials employed in the package of your new air conditioner may be disposed without any danger to the environment.

The cardboard box may be broken or cut into smaller pieces and given to a waste paper disposal service. The wrapping bag made of polyethylene and the polyethylene foam pads

All these valuable materials may be taken to a waste collecting center and used again after adequate recycling.

Consult your local authorities for the name and address of the waste materials collecting centers and waste paper disposal services nearest to your house.

## Safety Instructions and Warnings

Before starting the air conditioner, read the information given in the User's Guide carefully. The User's Guide contains very important observations relating to the assembly, operation and maintenance of the air conditioner.

The manufacturer does not accept responsibility for any damages that may arise due to non-observation of the following instruction.

- Damaged air conditioners are not to be put into operation. In case of doubt, consult your supplier.
- Use of the air conditioner is to be carried out in strict compliance with the relative instructions set forth in the User's Guide.
- Installation shall be done by professional people, don't install unit by yourself.
- For the purpose of the safety, the air conditioner must be properly grounded in accordance with specifications.
- Always remember to unplug the air conditioner before opening inlet grill. Never unplug your air conditioner by pulling on the power cord. Always grip plug firmly and pull straight out from the outlet.
- All electrical repairs must be carried out by qualified electricians. Inadequate repairs may result in a major source of danger for the user of the air conditioner.
- Do not damage any parts of the air conditioner that carry refrigerant by piercing or perforating the air conditioner's tubes with sharp or pointed items, crushing or twisting any tubes, or scraping the coatings off the surfaces. If the refrigerant spurts out and gets into eyes, it may result in serious eye injuries.

# Cautions

- Do not obstruct or cover the ventilation grille of the air conditioner. Do not put fingers or any other things into the inlet/outlet and swing louver.

- Do not allow children to play with the air conditioner. In no case should children be allowed to sit on the outdoor unit.

## Specifications

- The refrigerating circuit is leak-proof.

The machine is adaptive in following situation

1. Applicable ambient temperature range:

Cooling	Indoor	Maximum:D.B/W.B 32°C/23°C Minimum:D.B/W.B 18°C/14°C
	Outdoor	Maximum:D.B/W.B 43°C/26°C Maximum:D.B 18°C
Heating	Indoor	Maximum:D.B 27°C Maximum:D.B 15°C
	Outdoor	Maximum:D.B/W.B 24°C/18°C Minimum:D.B/W.B -15°C

2. If the power supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similar qualified person.

3. If the fuse of indoor unit on PC board is broken, please change it with the type of T. 3.15A/ 250V. If the fuse of outdoor unit is broken, change it with the type of T.25A/250V.

4. The wiring method should be in line with the local wiring standard.

5. After installation, the power plug should be easily reached.

6. The waste battery should be disposed properly.

7. The appliance is not intended for use by young children or infirm persons without supervision.

8. Young children should be supervised to ensure that they do not play with the appliance.

9. A breaker should be incorporated into fixed wiring. The breaker should be all-pole switch and the distance between its two contacts should be not less than 3mm.

10. Please employ the proper power plug, which fit into the power supply cord.

11. The power plug and connecting cable must have acquired the local attestation.

12. In order to protect the units, please turn off the A/C first, and at least 30 seconds later, cutting off the power.

# Cautions

## Safety Instruction

- Please read the following Safety Instructions carefully prior to use
- The instructions are classified into two levels, WARNING and CAUTION according to the seriousness of possible risks and damages as follows. Compliance to the instructions are strictly required for safety use.

## Installation

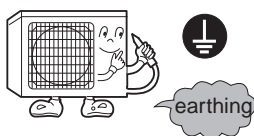
### ⚠ WARNING

Please call Sales/Service Shop for the Installation.  
Do not attempt to install the air conditioner by yourself because improper works may cause electric shock, fire, water leakage.

Installation in a inadequate place may cause accidents. Do not install in the following place.

### securely ⚠ CAUTION

Connect the earth cable.



Do not install in the place where there is any possibility of inflammable gas leakage around the unit.



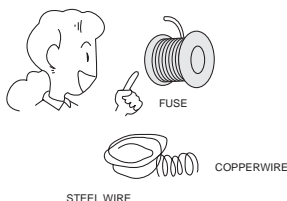
Do not get the unit exposed to vapor or oil steam.



Check proper installation of the drainage



Use fuse with specified capacity. Replacement with steel or copper wires are absolutely prohibited.



Grounding wire should not be connected to that of gas pipeline, water pipeline, lighting arrester or telephone.

# Cautions

## ⚠ WARNING

When abnormality such as burnt-smell found, immediately stop the operation button and contact sales shop.

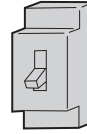


OFF



**!**  
STRICT  
ENFORCEMENT

Use an exclusive power source with a circuit breaker



Connect power supply cord to the outlet completely



**!**  
STRICT  
ENFORCEMENT

After installed, the unit shall be tested for electric leakage.

**!**  
STRICT  
ENFORCEMENT

Do not use power supply cord extended or connected in halfway

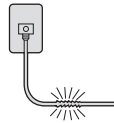
**⊘**  
PROHIBITION

Do not use power supply cord in a bundle.



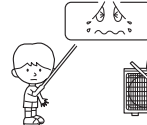
**⊘**  
PROHIBITION

Take care not to damage the power supply cord.



**⊘**  
PROHIBITION

Do not insert objects into the air inlet or outlet.



**⊘**  
PROHIBITION

Do not start or stop the operation by disconnecting the power supply cord and so on.



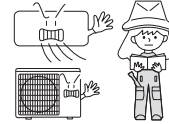
**⊘**  
PROHIBITION

Do not channel the air flow directly at people, especially at infants or the aged.



**⊘**  
PROHIBITION

Do not try to repair or reconstruct by yourself.



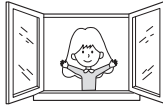
## ⚠ CAUTION

Do not use for the purpose of storage of food, art work, precise equipment, breeding, or cultivation.



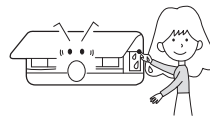
**⊘**  
PROHIBITION

Take fresh air occasionally especially when gas appliance is running at the same time.



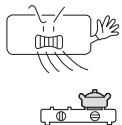
**!**  
STRICT  
ENFORCEMENT

Do not operate the switch with wet hand.



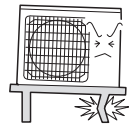
**⊘**  
PROHIBITION

Do not install the unit near a fireplace or other heating apparatus.



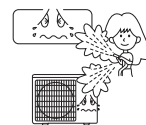
**⊘**  
PROHIBITION

Check good condition of the installation stand



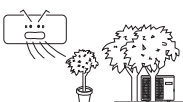
**⊘**  
PROHIBITION

Do not pour water onto the unit for cleaning



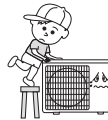
**⊘**  
PROHIBITION

Do not place animals or plants in the direct path of the air flow



**⊘**  
PROHIBITION

Do not place any objects on or climb on the unit.



**⊘**  
PROHIBITION

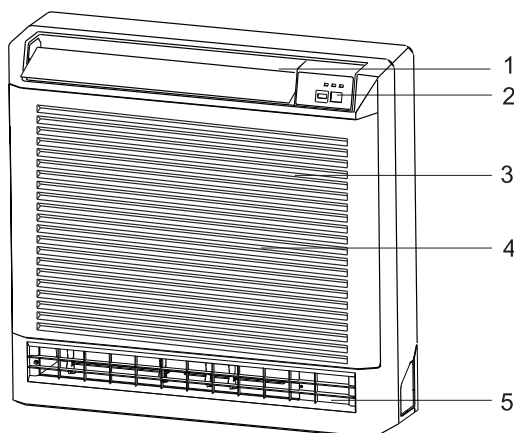
Do not place flower vase or water containers on the top of the unit.



**⊘**  
PROHIBITION

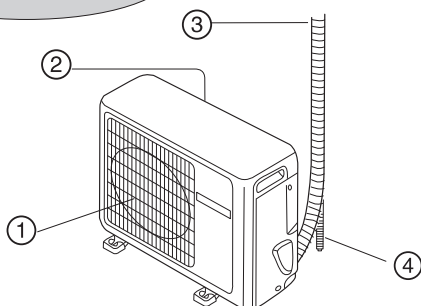
# Parts and Functions

## Indoor unit

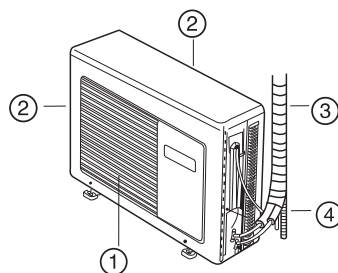


- 1.OUTLET
- 2.CONTROL PANEL
- 3.INLET
- 4.FILTER (inside)
- 5.OUTLET

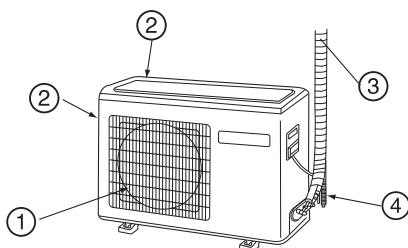
## Outdoor unit



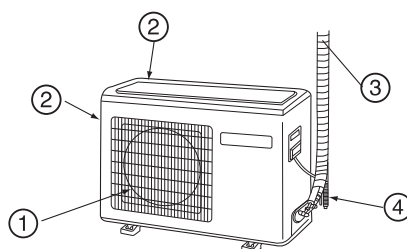
HFU-09HA03(B)/R1



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HFU-09H03/R2(DB)  
HFU-12H03/R2(DB)



HFU-18H03/R2(DB)

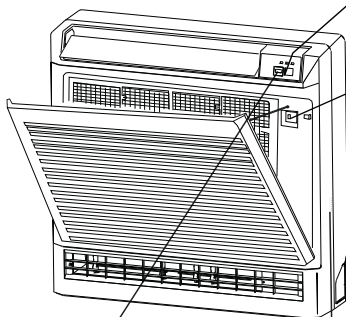
- ① OUTLET
- ② INLET
- ③ CONNECTING PIPING AND ELECTRICAL WIRING
- ④ DRAIN HOSE

# Parts and Functions



## CAUTION

Before opening the front grille, be sure to stop the operation and turn the breaker OFF.  
Do not touch the metal parts on the inside of the indoor unit, as it may result in injury.



### ON/OFF button

- Push once to start operation, push once again to stop it.
- Operation is set to AUTO, air flow is set to AUTO FAN.
- Use when remote controller is not available.

### Indoor temperature sensor

Senses the air temperature around the unit.

## Air flow selection

- Make air flow selection according to what suits you.

### ■ When setting the air flow selection switch to .

- Air conditioner automatically decides the appropriate blowing pattern depending on the operating mode/situation.
- During Dry mode, so that cold air does not come into direct contact with people, air is blown upper air outlet.





### ■ When setting the air outlet selection switch to .

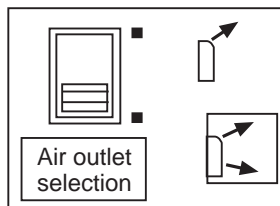
- Regardless of the operating mode or situation, air blows from the upper air outlet.
- Use this switch when you do not want air coming out of the lower air outlet. (While sleeping etc..)

### Receiver

- Signals are received from the remote controller here.
- Upon receiving a signal, there is a receiving sound.

### Air outlet selection switch

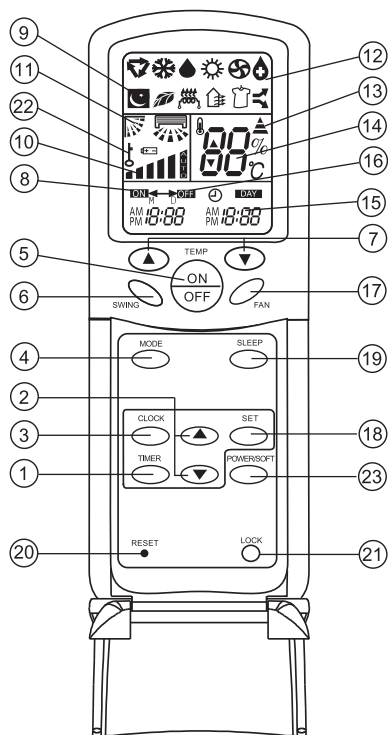
-  This setting blows air from upper outlet only.
-  This setting automatically decides a blow pattern depending on mode and conditions.
- This setting is recommended. 
-  The unit is shipped from the factory with this setting.



Operating mode	Situation	Blowing pattern
Cool mode	When the room has become fully cool, or when one hour has passed since turning on the air conditioner.	So that air does not come into direct contact with people, air is blown upper air outlet, room temperature is equalised
	At start of operation or other times when the room is not fully cooled.	Air is blown from the upper and lower air outlets for high speed cooling during Cool mode, and for filling the room with warm air during Heat mode.
Heat mode	At times other than below. (Normal time.)	Air is blown from the upper and lower air outlets for high speed cooling during Cool mode, and for filling the room with warm air during Heat mode.
	At start or when air temperature is low.	So that air does not come into direct contact with people. Air is blown upper air outlet.

# Parts and Functions

## Remote Controller



### 1. TIMER

Used to select TIMER ON, TIMER OFF, TIMER ON-OFF

### 2. HOUR

Used to set clock and timer setting.

### 3. CLOCK

Used to set correct time.

### Note:

1. The following functions and related displays are not available for all models: Display of humidifying and atmosphere humidity.
2. There is health display with the remote controller in this type, but without health function.

### 4. MODE

Used to select AUTO, COOL, DRY, FAN and HEAT operation.

### 5. ON/OFF

Used for unit start and stop.

### 6. SWING

Used to adjust the up/down air flow direction.

### 7. TEMP.

Used to select your desired temperature.

### 8. TIMER ON display

### 9. SLEEP display

### 10. FAN SPEED display

Remote controller:



### 11. SWING UP/DOWN display

### 12. MODE display

Operation mode	Remote controller
AUTO	
COOL	
DRY	
FAN	
HEAT	

### 13. SIGNAL SENDING display

### 14. TEMP. display

Remote controller: to display the TEMP. setting.

### 15. CLOCK display

### 16. TIMER OFF display

### 17. FAN

Used to select fan speed: LO, MED, HI, AUTO

### 18. SET

Used to confirm timer and clock settings.

### 19. SLEEP

Used to select sleep mode.

### 20. RESET

When the remote controller appears abnormal, use a sharp pointed item to press this button to reset the remote controller to normal condition.

### 21. LOCK

Used to lock buttons and LCD display. If pressed, the other buttons will be disabled and the lock condition display appears.

Press it once again, lock will be canceled and lock condition display disappears.

### 22. LOCK display

### 23. POWER/SOFT

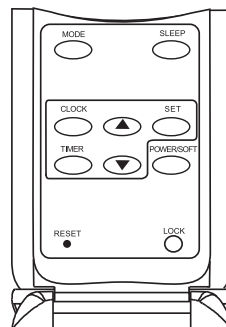


# Parts and Functions

## ■ Clock Set

When unit is started for the first time and after replacing batteries in remote controller, clock should be adjusted as follows:

1. Press CLOCK button, "AM" or "PM" flashes.
2. Press  $\triangle$  or  $\nabla$  to set correct time. Each press will increase or decrease 1 min. If the button is kept depressed, time will change quickly.
3. After time setting is confirmed, press SET, "AM" or "PM" stop flashing, while clock starts working.



## ■ Remote controller's operation

- When in use, put the signal transmission head directly to the receiver hole on the indoor unit.
- The distance between the signal transmission head and the receiver hole should be within 7 m without any obstacle as well.
- Don't throw or knock the remoter controller.
- When electronic-started type fluorescent lamp or change-over type fluorescent lamp or wireless telephone is installed in the room, the receiver is apt to be disturbed in receiving the signals, so the distance to the indoor unit should be shorter.

## ■ Loading of the battery

Load the batteries as illustrated right  
2 R-03 (7#) batteries

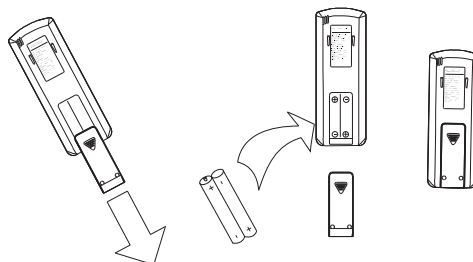
Remove the battery cover:

Slightly press "≡" area and push down the cover as illustrated.

Load the battery:

Be sure that the loading is in line with the "+" / "-".  
request as illustrated on the bottom of the case.

Put on the cover again.



Confirmation indicator:

After pressing power ON/OFF, if no display, reload the batteries.

Note:

- Full display or unclear display during operation indicates the batteries have been used up. Please change batteries.
- Used two new same-typed batteries when loading.
- If the remote controller can't run normally during operation, please remove the batteries and reload several minutes later.

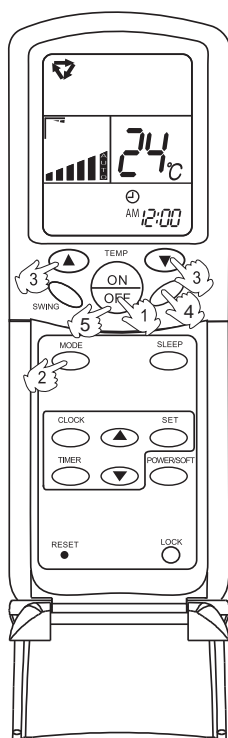
Hint:

Remove the batteries in case unit won't be in usage for a long period. If there are any display after taking-out, just need to press reset key.

# Operation

## Auto Operation

### Remote controller



#### 1. Unit start

Press ON/OFF on the indoor unit, or press ON/OFF on the remote controller, unit starts.

Previous operation status appears on LCD display (no timer and sleep), and set the operation mode.

#### 2. Select operation mode

Press MODE button. For each press, operation mode changes as follows:

Remote controller:



Then Select Auto operation

#### 3. Select temp. setting

Press TEMP. button

△ Every time the button is pressed, temp. setting increase 1°C, if kept depressed, it will increase rapidly

▽ Every time the button is pressed, temp. setting decrease 1°C, if kept depressed, it will decrease rapidly

Select a desired temperature.

#### 4. Fan speed selection

Press FAN button. For each press, fan speed changes as follows:

Remote controller:



Air conditioner is running under displayed wind speed  
When FAN is set to AUTO, the air conditioner automatically adjusts the fan speed according to room temperature.

#### 5. Unit stop

Press ON/OFF button, the unit stops.

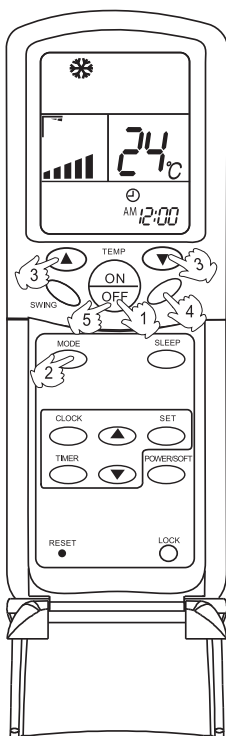
#### About AUTO mode

In AUTO run mode, the air conditioner will automatically select cooling or heating operation mode according to room temperature.

# Operation

## Cool Operation

### Remote controller



#### 1. Unit start

Press ON/OFF on the indoor unit, or press ON/OFF on the remote controller, unit starts.

Previous operation status appears on LCD display (no timer and sleep).

#### 2. Select operation mode

Press MODE button. For each press, operation mode changes as follows:

Remote controller:



Then **Select Cool operation**

#### 3. Select temp. setting

Press TEMP. button

△ Every time the button is pressed, temp. setting increase 1°C, if kept depressed, it will increase rapidly

▽ Every time the button is pressed, temp. setting decrease 1°C, if kept depressed, it will decrease rapidly

Select a desired temperature.

#### 4. Fan speed selection

Press FAN button. For each press, fan speed changes as follows:

Remote controller:



Air conditioner is running under displayed wind speed  
When FAN is set to AUTO, the air conditioner automatically adjusts the fan speed according to room temperature.

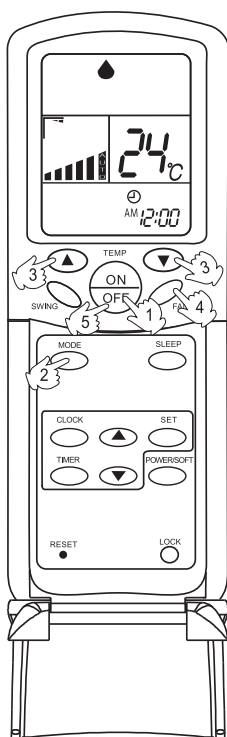
#### 5. Unit stop

Press ON/OFF button, the unit stops.

# Operation

## DRY Operation

### Remote controller



#### 1. Unit start

Press ON/OFF on the indoor unit, or press ON/OFF on the remote controller, unit starts.

Previous operation status appears on LCD display (no timer and sleep).

#### 2. Select operation mode

Press MODE button. For each press, operation mode changes as follows:

Remote controller:



Then **Select DRY operation**

#### 3. Select temp. setting

Press TEMP. button

△ Every time the button is pressed, temp. setting increase 1°C, if kept depressed, it will increase rapidly

▽ Every time the button is pressed, temp. setting decrease 1°C, if kept depressed, it will decrease rapidly

Select a desired temperature.

#### 4. Fan speed selection

Press FAN button. For each press, fan speed changes as follows:

Remote controller:

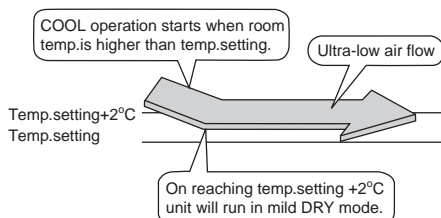


Air conditioner is running under displayed fan speed.

In DRY mode, when room temperature becomes lower than temp. setting + 2°C, unit will run intermittently at LOW speed regardless of FAN setting.

#### 5. Unit stop

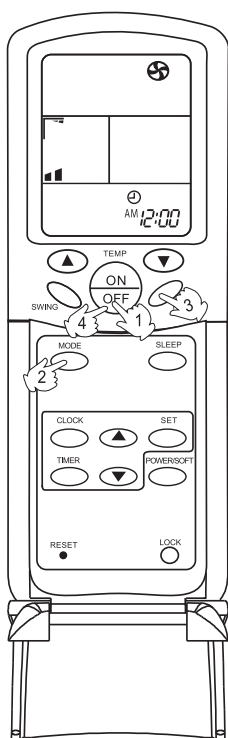
Press ON/OFF button, the unit stops.



# Operation

## FAN Operation

### Remote controller



#### 1. Unit start

Press ON/OFF on the indoor unit, or press ON/OFF on the remote controller, unit starts.

Previous operation status appears on LCD display (no timer and sleep).

#### 2. Select operation mode

Press MODE button. For each press, operation mode changes as follows:

Remote controller:



Then **Select FAN operation**

#### 3. Fan speed selection

Press FAN button. For each press, fan speed changes as follows:

Remote controller:



#### 4. Unit stop

Press ON/OFF button, the unit stops.

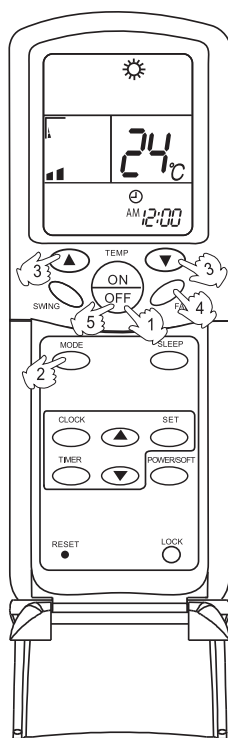
#### About FAN operation

In FAN operation mode, the unit will not operate in COOL or HEAT mode but only in FAN mode. AUTO is not available in FAN mode. And temp. setting is disabled. In FAN mode, SLEEP operation is not available.

# Operation

## HEAT Operation

### Remote controller



Regarding the ambient temperature display during the heating operation

In defrosting, the indoor temperature value displayed may be reduced due to the dropping of cooling air of the evaporator of indoor unit under cooling mode. It is normal phenomenon.

#### 1. Unit start

Press ON/OFF on the indoor unit, or press ON/OFF on the remote controller, unit starts.

Previous operation status appears on LCD display (no timer and sleep).

#### 2. Select operation mode

Press MODE button. For each press, operation mode changes as follows:

Remote controller:



Then **Select HEAT operation**

#### 3. Select temp. setting

Press TEMP. button

△ Every time the button is pressed, temp. setting increase 1°C, if kept depressed, it will increase rapidly

▽ Every time the button is pressed, temp. setting decrease 1°C, if kept depressed, it will decrease rapidly

Select a desired temperature.

#### 4. Fan speed selection

Press FAN button. For each press, fan speed changes as follows:

Remote controller:



Air conditioner is running under displayed wind speed IN HEAT mode, warm air will blow out after a short period of the time due to cold-draft prevention function.

When FAN is set to AUTO, the air conditioner automatically adjusts the fan speed according to room temperature.

#### 5. Unit stop

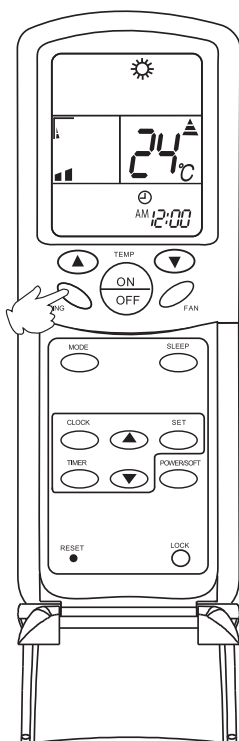
Press ON/OFF button, the unit stops.

# Operation

## Adjusting the Air Flow Direction

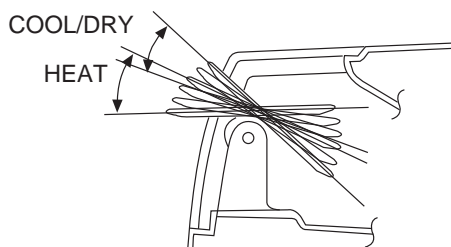
You can adjust the air flow direction to increase your comfort

### Adjusting the flap



### Notes on flap angles

- When SWING is selected, the flap swinging range depends on the operation mode. (See the figure.)



### NOTE

- Unless [SWING] is selected, you should set the flap at a near-horizontal angle in HEAT mode and at an upward position in COOL or DRY mode to obtain the best performance.

### CAUTION

- Do not try to adjust the flap by hand.
- When adjusting by hand, the mechanism may not operate properly or condensation may drip from air outlets

### ATTENTION

- When adjusting the flap by hand, turn off the unit, and use the remote controller to restart the unit.

### Adjusting the louver

Hold the knob and move the louver.

(You will find a knob on the left-side and the right-side blades)

### ATTENTION

- Be careful when adjusting the louver. Inside the air outlet, a fan is rotating at a high speed.

# Operation

## SLEEP Operation

Before going to bed, you can simply press the SLEEP button and unit will operation in SLEEP mode and bring you a sound sleep.

### Use of SLEEP function

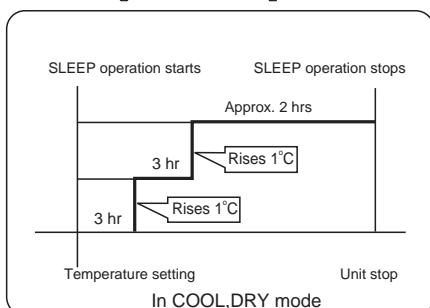
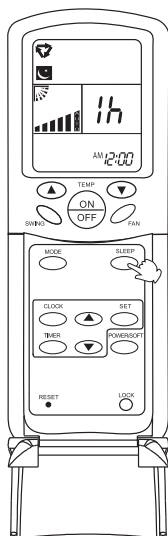
After the unit starts, set the operation status, then press SLEEP button before which the clock must be adjusted and time being set.

### Operation Mode

#### 1. In COOL, DRY mode

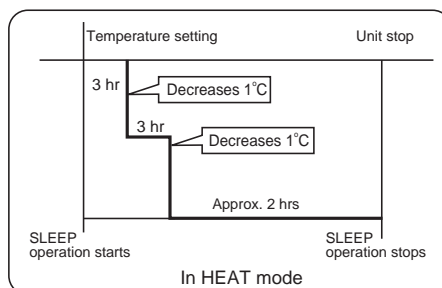
3 hours after SLEEP mode starts, temperature will become 1°C higher than temperature setting. After another 3 hours temperature rises by 1°C further. The unit will run for further 2 hours then stops. Temperature is higher than temperature setting so that room temperature won't be too low for your sleep.

### Remote controller



#### 2. In HEAT mode

3 hours after SLEEP mode starts, temperature will become 1°C lower than temperature setting. After another 3 hours temperature decrease by 1°C further. The unit will run for further 2 hours then stops. Temperature is lower than temperature setting so that room temperature won't be too high for your sleep.



#### 3. In AUTO mode

The unit operates in corresponding sleep SLEEP mode adapted to the automatically selected operation mode.

#### 4. In FAN mode

It has timing off function.

#### 5. The sleep time can be adjusted within the range of 1-8 hours.

Push the SLEEP button. The remote controller will display "☾", and display the timing off and detail off time in the timing off setting area.

Push the time adjusting button to adjust the detail sleep time.

#### 6. If the sleep time in cooling, dehumidifying and heating run is less than 8 hours

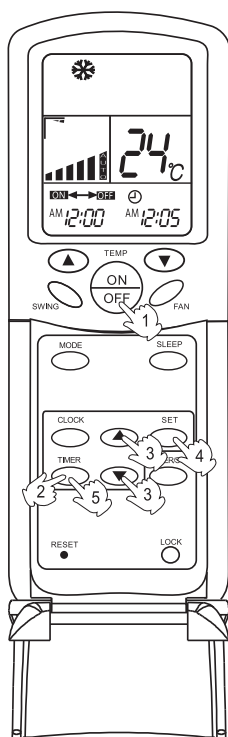
Within the set sleep time, the conditioner will run as per the procedure described in 1 and 2. It will be switched off automatically when the sleep time is expired.



# Operation

## Timer On/Off Operation

### Remote controller



Set clock correctly before starting TIMER operation.

1. After unit starts, select your desired operation mode.

Operation mode will be displayed on LCD

2. Timer mode selection

Press TMIER button to change TIMER mode. Every time' the button pressed, display changes as follows:

Remote controller:



Then select your desired TIMER mode (TIMER ON or TIMER OFF). " ON "or" OFF "will flash.

3. Time setting

Press HOUR  $\Delta$  /  $\nabla$  button.

- $\Delta$  Every time the button is pressed, time setting increases 1 min, if kept depressed, it will increase rapidly.
  - $\nabla$  Every time the button is pressed, time setting decreases 1 min, if kept depressed, it will decrease rapidly.
- It can be adjusted within 24 hours.

4. Confirming your setting

After setting correct time, press SET button to confirm " ON "or" OFF "on the remote controller stops flashing.

Time displayed: Unit starts or stops at x hour x min. (TIMER ON or TIMER OFF).

5. Cancel TIMER mode

Just press TIMER button several times until TIMER mode disappears.

### Hints:

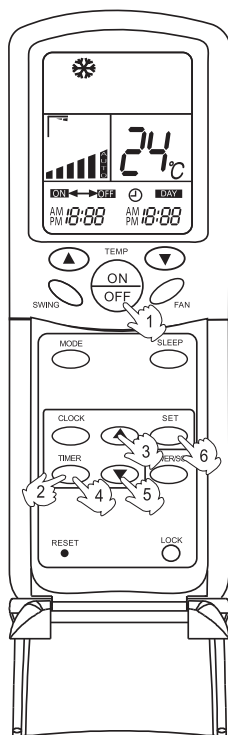
After replacing batteries or a power failure happens, time setting should be reset.

Remote controller possesses memory function, when use TIMER mode next time, just press SET button after mode selecting if time setting is the same as previous one.

# Operation

## TIMER On-Off Operation

### Remote Controller



Set clock correctly before starting TIMER operation.

1. After unit starts, select your desired operation mode  
Operation mode will be displayed on LCD.

2. Timer mode selection

Press TIMER button to change TIMER mode. Every time the button is pressed, display changes as follows:

Remote controller:



Then select your desired TIMER mode (TIMER ON - OFF).

" ON "will flash.

3. Time setting

Press HOUR  $\Delta$  /  $\nabla$  button.

$\Delta$  Every time the button is pressed, time setting increases 1 min, if kept depressed, it will increase rapidly.

$\nabla$  Every time the button is pressed, time setting decreases 1 min, if kept depressed, it will decrease rapidly.  
It can be adjusted within 24 hours.

4. Timer confirming for TIMER ON

After setting correct time, press TIMER button to confirm

" ON " on the remote controller stops flashing.

" OFF " starts flashing.

Time displayed: Unit starts or stops at x hour x min.

5. Time setting for TIMER OFF

Just press HOUR button ,follow the same procedure in "Time setting for TIMER ON"

6. Time confirming for TIMER OFF

After time setting,press SET button to confirm.

" OFF " on the remote controller stops blinking.

Time displayed:Unit stops at x hour x min.

To cancel TIMER mode

Just press TIMER button several times until TIMER mode disappears.

According to the Time setting sequence of TIMER ON or TIMER OFF, either Start-Stop or Stop-Start can be achieved.

# Operation

## POWER/SOFT Operation

### POWER Operation

When you need rapid heating or cooling, you can use this function.

Selecting of POWER operation

Press POWER/SOFT button. Every time the button is pressed, display changes as follows:



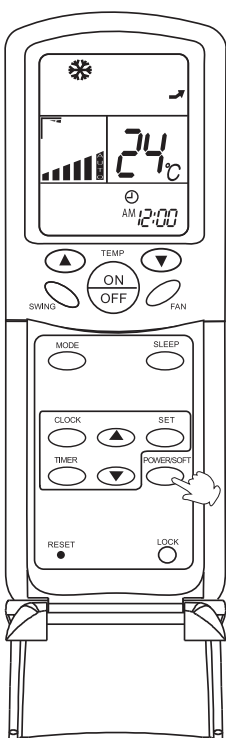
Stop the display at " ".

In POWER operation status:

In HEAT or COOL mode, fan speed automatically runs in HI mode for 15 min then returns to original status setting.

To cancel POWER operation

Press POWER/SOFT button twice ,POWER/SOFT disappears.



### SOFT Operation

You can use this function when silence is needed for rest or reading.

Selecting of SOFT operation

Press POWER/SOFT button. Every time the button is pressed, display changes as follows:



Stop the display at " ".

In SOFT operation mode, fan speed automatically takes "LOW"

To cancel SOFT operation

Press POWER/SOFT button twice ,POWER/SOFT disappears.

### Hints:

During POWER operation, in rapid HEAT or COOL mode, the room will show inhomogeneous temperature distribution.

Long period SOFT operation will cause effect of not too cool or not too warm.

# Operation

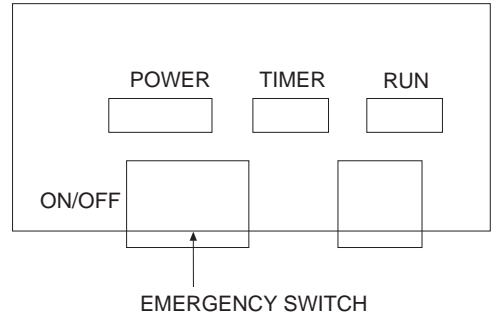
## EMERGENCY OPERATION AND TEST OPERATION

### EMERGENCY OPERATION

- Carry out this operation only when the remote controller is defective or lost.
- Unit start  
When the emergency operation switch is pressed, a sound you can hear, which means the start of this operation.
- Follow the requirements below.

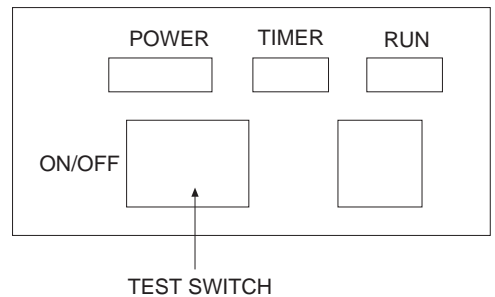
Room temperature	Designated temperature	Timer mode	Air flow speed	Operation mode	Anion
>23°C	26°C	None	AUTO	COOL	None
·23°C	23°C	None	AUTO	HEAT	None

- Unit stop (to cancel emergency operation)  
Press the emergency switch and hear a sound, the unit stops.



### TEST OPERATION

- Use this switch in the test operation when the room temperature is less 16°C, do not it in the normal operation.
- Unit start  
Continue to press the test operation switch for more than 5 seconds. After you hear the "BI" sound twice, release your finger from the switch, the test operation starts and the air conditioner starts with the air flow speed setting "Hi".



- Unit stop(to cancel test operation)  
Push the test run switch or operate with remote controller to cancel the test run. If you use the remote controller to cancel the test run, the conditioner will then run as per the working mode displayed on the remote controller.

# Operation hints

## Remote monitoring

The control board of the indoor unit reserves the communication port for remote control. If you install the peripheral equipment according to the manual of the matching remote control detector, it can realize the computer management or remote monitoring of the conditioner. Please refer to the manual of the " Conditioner remote control detector" for the details

## Power failure resume(please set and apply as necessary)

With setting of power failure resume, if sudden power failure occurs, the unit will resume original operation when power is supplied again.

### Setting method

With ON of remote controller (except TIMER and FAN),repeatedly press SLEEP button 10 times in 5 seconds, after 4 Beep from the buzzer, the unit comes into power failure resume mode.

### To cancel:


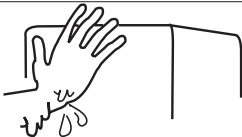

press SLEEP button continuously 10 times in 5 seconds, the buzzer sounds Beep twice and power failure resume function is canceled.

### Note:

When sudden power failure happens during unit operation in power failure resume mode,if the air conditioner is not desired for use in a long period, please shut off the power supply in case that the unit automatically resume operation when power is re-supplied, or press ON/OFF to turn off the unit when power resumes.

# Maintenance

## Cleaning of the unit

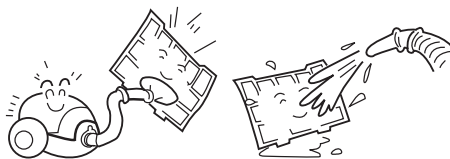
Turn off the power switch	Do not touch with wet hand	Do not clean with hot water or solvent
		

### Take off the air inlet grill

First switch off the power supply, take off the screw cap, loosen the screw with cross screwdriver.

### Clean the filter

Use water or vacuum cleaner to remove dust. If it is too dirt, clean with detergent or neutral soap water. Rinsing with fresh water, dry the filter and re-assemble.



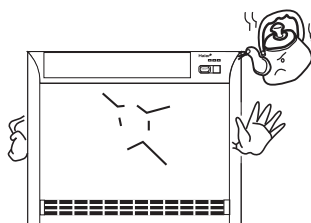
### Caution:

Do not wash filter in hot water above 40°C, which will damage the filter. Do carefully wipe the filter.



### Clean the indoor(outdoor) unit

Clean with warm cloth or neutral detergent, then wipe away moisture with dry cloth. Do not use too hot water(above 40°C), which will cause discoloration or deformation. Do not use pesticide or other chemical detergents.

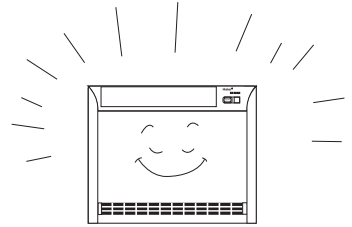


# Maintenance

## Maintenance at the end of application season

On a fine day, unit shall be started and operate in FAN mode for about half a day unit the inside of the unit becomes thoroughly dry.

Turn off the unit operation switch and power on/off. Otherwise, there will be some electricity consumption even the unit is in stop status.



Clean the filter and indoor, outdoor unit, cover the units well.






## Maintenance before beginning of application season

Check there are no obstacles in the air inlet and outlet to avoid impairing of working efficiency.

Please do attach the air filter to ensure the electrostatic filters not soiled. Otherwise, dirt will come into and damage the unit or bring failures.

# Trouble shooting

Before asking for service, check the following first.

	Phenomenon	Cause or check points
Normal Performance inspection	<p>The system does not restart immediately.</p> 	<ul style="list-style-type: none"> <li>• When unit is stopped, it won't restart immediately until 3 minutes have elapsed to protect the system.</li> <li>• When the electric plug is pulled out and reinserted, the protection circuit will work for 3 minutes to protect the air conditioner.</li> </ul>
	<p>Noise is heard:</p> 	<ul style="list-style-type: none"> <li>• During unit operation or at stop, a swishing or gurgling noise may be heard. At first 2-3 minutes after unit start, this noise is more noticeable. (This noise is generated by refrigerant flowing in the system.)</li> <li>• During unit operation, a cracking noise may be heard. This noise is generated by the casing expanding or shrinking because of temperature changes.</li> <li>• Should there be a big noise from air flow in unit operation, air filter may be too dirty.</li> </ul>
	<p>Smells are generated.</p>	<ul style="list-style-type: none"> <li>• This is because the system circulates smells from the interior air such as the smell of furniture, cigarettes.</li> </ul>
	<p>Mist or steam are blown out.</p>	<ul style="list-style-type: none"> <li>• During COOL or DRY operation, indoor unit may blow out mist. This is due to the sudden cooling of indoor air.</li> </ul>
Multiple check	<p>Does not work at all.</p>	<ul style="list-style-type: none"> <li>• Is power plug inserted?</li> <li>• Is there a power failure?</li> <li>• Is fuse blown out?</li> </ul>
	<p>Poor cooling</p> 	<ul style="list-style-type: none"> <li>• Is the air filter dirty? Normally it should be cleaned every 15 days.</li> <li>• Are there any obstacles before inlet and outlet?</li> <li>• Is temperature set correctly?</li> <li>• Are there some doors or windows left open?</li> <li>• Is there any direct sunlight through the window during the cooling operation?(Use curtain)</li> <li>• Are there too much heat sources or too many people in the room during cooling operation?</li> </ul>



# Installation Manual of Room Air Conditioner

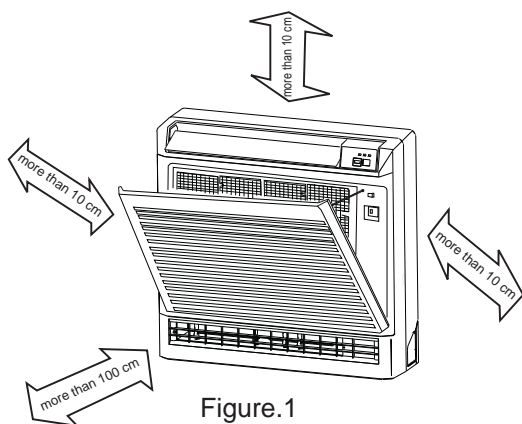


Figure.1

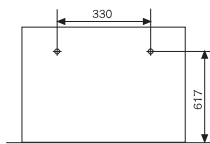


Figure.2

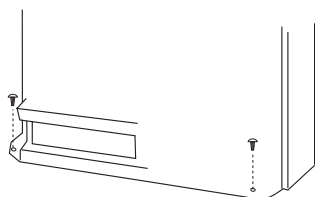


Figure.3

## Installation of indoor unit

### selection of installation place

- Place where it is easy to route drainage pipe and outdoor piping.
- Place, away from heat source and with less direct sunlight.
- Place where cool and warm air could be delivered evenly to every corner of the room.
- Place near power supply socket. Leave enough space around the unit.
- Place, robust not causing vibration, where the body can be supported sufficiently.
- To prevent interference, place it at least 1m away from other electric machines, such as TV set, radio.

### Installation

- According to the dimension of the Figure 2 shown nail two cement steel nails on the wall keep 2-3mm out, then hang the back of the unit on them.
- There must be no gap between the indoor unit and wall.
- Remove the front panel, then use two fastening screws to fix the unit on the floor. As Figure 3 shown.
- Once refrigerant piping and drain piping connections are complete, fill the gap of the through hole with putty.
- Attach the front panel and front grille in their original positions once all connections are complete.

## Installation of outdoor unit

### selection of installation place

- Place strong enough to support the unit and will not cause vibration and noise.
- Place where discharged wind and noise does not cause a nuisance to the neighbors.
- Place where is less affected by rain or direct sunlight and is sufficiently ventilated, or to install a shield.
- Place with enough space for smooth air flow.

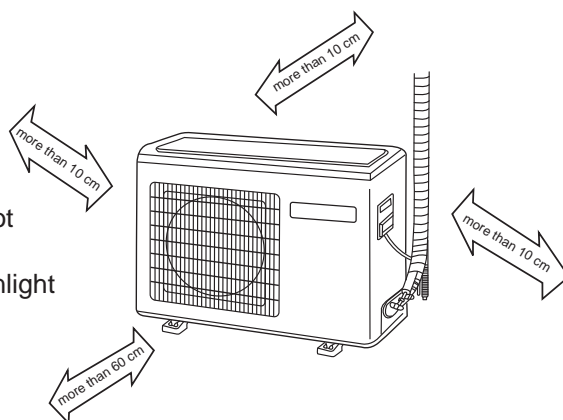









Figure.4

# Installation Manual of Room Air Conditioner

## Tool necessary

- 1.Screw driver
- 2.Hacksaw
- 3.70mm dia. hole core drill
- 4.Spanner(dia.17,27mm)
- 5.Spanner(14,17,27mm)
- 6.Pipe cutter
- 7.Flaring tool
- 8.Knife
- 9.Nipper
- 10.Gas leakage detector  
or soap water
- 11.Measuring tape
- 12.Reamer
- 13.Refrigerant oil

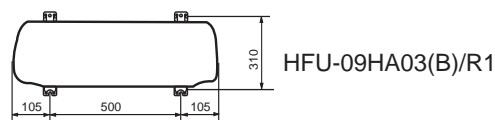
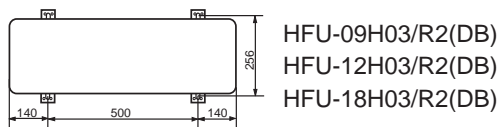
No.	Shape and description	QTY
①	 Remote controller	1
②	 Drain hose	1
③	 Plastic cap	4
④	 Drain-elbow	1
⑤	 Self-tapping screw	4
⑥	 Rubber pad	4
⑦	 dry battery #7	2

## Standard accessories

Following parts shall be field supplied

Mark	Part name
Ⓐ	Adhesive tape
Ⓑ	Pipe clip
Ⓒ	Connecting hose
Ⓓ	Insulation material
Ⓔ	Drain hose

Floor fixing dimensions of the outdoor unit(Unit:mm)



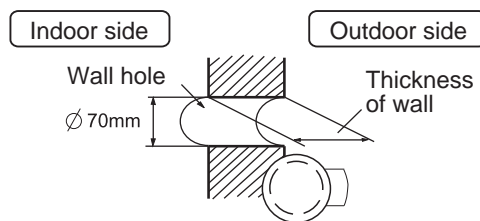
## Fixing of the unit

### 1. Position of the wall hole

Wall hole should be decided according to installation place and piping direction.(refer to installation drawings).

### 2. Making a wall hole

Drill a hole of 120x70mm dia. with a little slope towards outside.



(Cross section of wall hole)

# Installation Manual of Room Air Conditioner

## 3. Piping connection

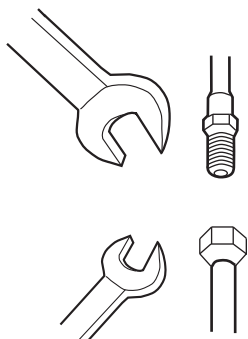
### Connecting method

Apply refrigerant oil at half union and flare nut.

To bent a pipe, give the roundness as large as possible not to crash the pipe.

When connecting pipe, hold the pipe center to center then screw nut on by hand, refer to Fig.

Be careful not to let foreign matters, such as sands enter the pipe.



Forced fastening without careful centering may damage the threads and cause a leakage of gas.

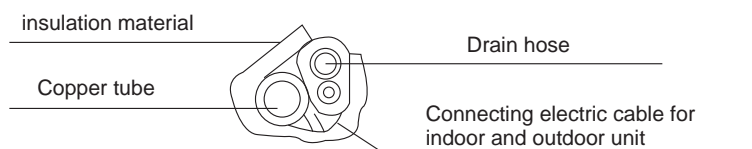
Pipe Diameter ( $\phi$ )	Fastening torque
Liquid side 6.35mm(1/4")	18N.m
Gas side 9.52mm(3/8")	42N.m
Gas side 12.7mm(1/2")	55N.m

### Piping connection of the indoor unit

#### 1. Arrangement of piping and drainage pipe

Remove the cover before working.

Cut away, with a hammer or a saw, the lid for piping according to piping direction.



According to the piping method, connect the piping on indoor unit with union of connection pipe. Arrange the piping as per the wall hole and bind drain hose connecting electric cable and piping together with polyethylene tape.

Insert the bound piping connecting electric cable and drain hose through wall hole to connect with outdoor unit.

#### 2. Arrangement drain hose

Drain hose shall be placed in under place.

There should be a slope when arrange drain hose. Avoid up and down waves in drain hose.

If humidity is high, drain pipe(especially in room and indoor unit) must be covered with installation material.

# Installation Manual of Room Air Conditioner

## 3. Piping connection of the outdoor unit

Connecting the connecting pipe and inlet and outlet liquid pipe according to the piping method  
Purging Method:(For R410A)

① Detach the service port's cap of 3-way valve, the valve rod's cap for 2-way valve and 3-way's, connect the service port into the projection of charge hose (low) for gaugemanifold. Then connect the projection of charge hose (center) for gaugemanifold into vacuum pump.

② Open the handle at low in gaugemanifold, operate vacuum pump. If the scale-moves of gauge (low) reach vacuum condition in a moment, check ① again.

③ Vacuumize for over 15min. And check the level gauge which should read -0.1 MPa (-76 cm Hg) at low pressure side. After the completion of vacuumizing, close the handle 'Lo' in gaugemanifold and stop the operation of the vacuum pump. Check the condition of the scale and hold it for 1-2min. If the scale-moves back in spite of tightening, make flaring work again, the return to the beginning of ③

④ Open the valve rod for the 2-way valve to an angle of anticlockwise 90 degrees. After 6 seconds, close the 2-way valve and make the inspection of gas leakage.

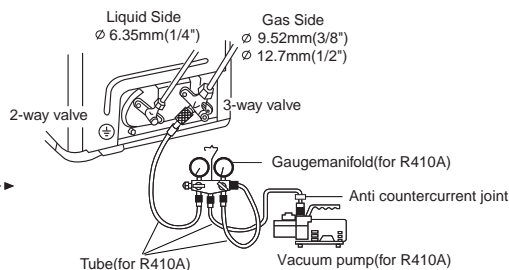
⑤ No gas leakage?

In case of gas leakage, tighten parts of pipe connection. If leakage stops, then proceed ⑥

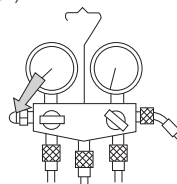
⑥ Detach the charge hose from the service port, open 2-way valve and 3-way. Turn the valve rod anticlockwise until hitting lightly.

⑦ To prevent the gas leakage, turn the service port's cap, the valve rod's cap for 2-way valve and 3-way's a little more than the point where the torque increases suddenly.

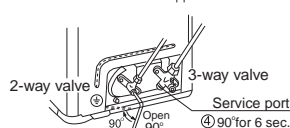
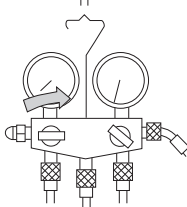
⑧ After attaching the each caps, check the gas leakage around the caps.



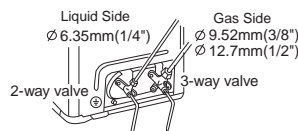
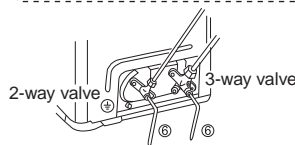
② Open



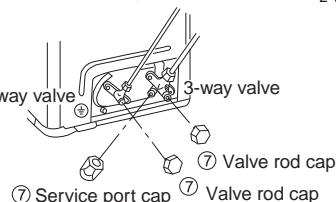
③ Close



If it does not stop gas leakage, discharge whole refrigerants from the service port. After flaring work again and vacuumize, fill up prescribed refrigerant from the gas cylinder



HFU-09H03/R2(DB)  
HFU-12H03/R2(DB)  
HFU-18H03/R2(DB)



### CAUTION:

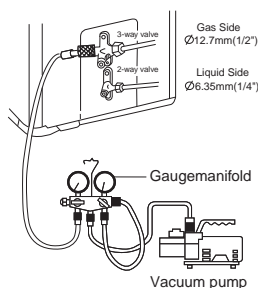
1.If the refrigerant of the air conditioner leaks, it is necessary to discharge all the refrigerant. Vacuumize first, then charge the liquid refrigerant into air conditioner according to the amount marked on the name plate.

2.Please do not let other cooling medium, except specified one (R410A), or air enter into the cooling circulation system. Otherwise, there will be abnormal high pressure in the system to make it crack and lead to personal injuries.

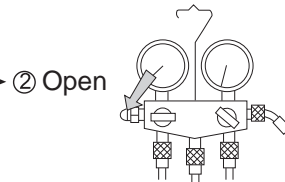
# Installation Manual of Room Air Conditioner

## 3. Piping connection of the outdoor unit Connecting the connecting pipe and inlet and outlet liquid pipe according to the piping method Purging Method:(For R407C)

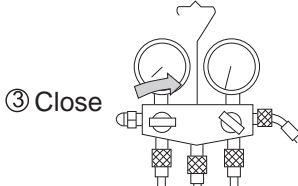
① Detach the service port's cap of 3-way valve, the valve rod's cap for 2-way valve and 3-way's, connect the service port into the projection of charge hose (low) for gaugemanifold. Then connect the projection of charge hose (center) for gaugemanifold into vacuum pump.



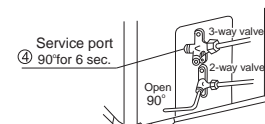
② Open the handle at low in gaugemanifold, operate vacuum pump. If the scale-moves of gauge (low) reach vacuum condition in a moment, check ① again.



③ Vacuumize for over 15min. And check the level gauge which should read -0.1 MPa (-76 cm Hg) at low pressure side. After the completion of vacuumizing, close the handle 'Lo' in gaugemanifold and stop the operation of the vacuum pump. Check the condition of the scale and hold it for 1-2min. If the scale-moves back in spite of tightening, make flaring work again, the return to the beginning of ③



④ Open the valve rod for the 2-way valve to an angle of anticlockwise 90 degrees. After 6 seconds, close the 2-way valve and make the inspection of gas leakage.

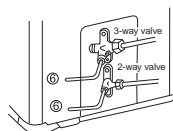


⑤ No gas leakage?

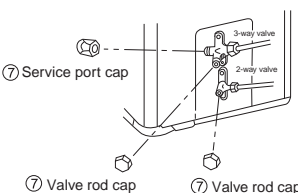
In case of gas leakage, tighten parts of pipe connection. If leakage stops, then proceed ⑥ steps.

If it does not stop gas leakage, discharge whole refrigerants from the service port. After flaring work again and vacuumize, fill up prescribed refrigerant from the gas cylinder

⑥ Detach the charge hose from the service port, open 2-way valve and 3-way. Turn the valve rod anticlockwise until hitting lightly.



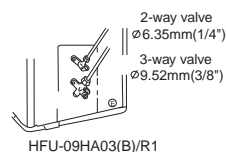
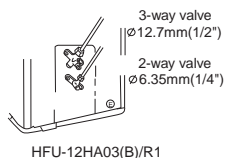
⑦ To prevent the gas leakage, turn the service port's cap, the valve rod's cap for 2-way valve and 3-way's a little more than the point where the torque increases suddenly.



⑧ After attaching the each caps, check the gas leakage around the caps.

### CAUTION:

1.If the refrigerant of the air conditioner leaks, it is necessary to discharge all the refrigerant. Vacuumize first, then charge the liquid refrigerant into air conditioner according to the amount marked on the name plate.



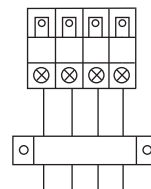
# Installation Manual of Room Air Conditioner

Note: When additional refrigerant is necessary, first purge air out of connecting pipe by external gas, then drive out the excessive refrigerant by purging method..

Brand new unit is charged 80g more refrigerant than spec. This is only for first installation to purge air in the indoor unit and connecting pipe.

When piping is longer than 5m, change additional refrigerant specified in this list.

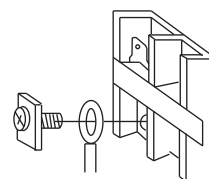
Pipe length	5m	10m	15m
Refrigerant charge(g)	———	90	180



## Electric wiring

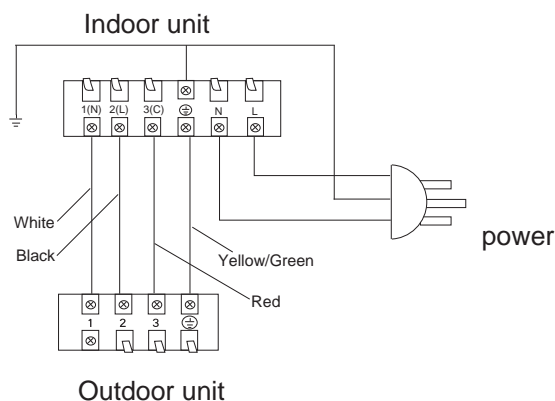
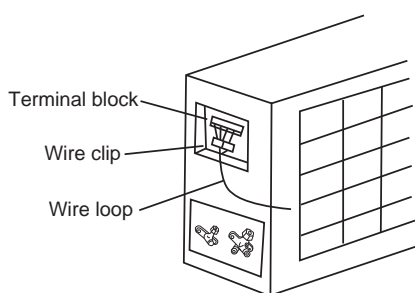
Note:

- Electric wiring must be done by qualified person.
- Use copper wire only.
- The parameter of the connecting cable is H05RN-F or H07RN-F
  - mod 09-12: 3G1.5mm<sup>2</sup>+1x0.75mm<sup>2</sup>
  - mod 18 : 3G2.5mm<sup>2</sup>+1x0.75mm<sup>2</sup>



## Wiring of indoor unit

- Insert the cable from outside the wall hole where piping already exist.
- Pull it out from front.
- Loose terminal screw and insert cable end fully into terminal block, then tighten it
- Pull the cable gently to make sure it is tight.
- Replace cover after wiring.



## Wiring of outdoor unit

- Insert the cable from inside the wall hole where piping already exist.
- Pull it out from front.
- Loose terminal screw and insert cable end fully into terminal block, then tighten it
- Pull the cable gently to make sure it is tight.
- Replace cover after wiring.

Note:

- When connecting indoor and outdoor wire, check the number on indoor and outdoor terminal blocks. Terminals of same number and same color shall be connected by the same wire.
- Incorrect wiring may damage air conditioner's control or cause operation failure.

# Installation Manual of Room Air Conditioner

## Others

### 1. Power supply

Air conditioner must use an exclusive line(over 20A).

The type of power supply wire is HF05VV-3G2.5mm<sup>2</sup>.

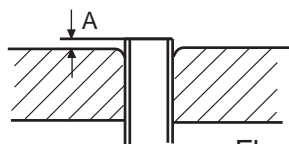
When installation air conditioner in a wet place, try to use a circuit breaker against current leakage.

For installation in other places, use circuit breaker as for as possible.

### 2. Piping cutting and flaring

Be sure to carry out deburring after cutting with a pipe cutter.

Insert flaring tool to make a flare



Flare tooling die

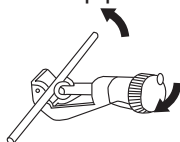
For cooling medium R410A

	Flare tool for R410A	Conventional flare tool	
	Clutch-type	clutch-type(Rigid-type)	Wing-nut type (Imperial-type)
A	0~0.5mm	1.0~1.5mm	1.5~2.0mm

For cooling medium R407C

	Pipe diameter φ	Size A (mm)
Liquid side	6.35mm(1/4")	0.8~1.5
Gas side	9.52mm(3/8")	1.0~1.8
Gas side	12.7mm(1/2")	1.2~2.0

#### 1. Cut pipe



#### 2. Remove burs



#### 3. Insert the flare nut



#### 4. Flare pipe



Correct	Incorrect					
	Lean	Damage of flare	Crack	Partial	Too outside	

## Installation inspection and test run:

Please operate unit according to this Manual

Items to be checked during test run. Please made a "✓" in "□"

- ☐ Are there any gas leakage?
- ☐ How is insulation at piping connection carried out?
- ☐ Are electric wires of indoor and outdoor unit firmly inserted into terminal block?
- ☐ Is electric wiring of indoor and outdoor securely fixed?
- ☐ Is drainage securely carried out?
- ☐ Is earth line(grounding) securely connected?
- ☐ Is power supply voltage abided by the code?
- ☐ Is there any noise?
- ☐ Is control display normal?
- ☐ Is cooling operation normal?
- ☐ Is room temp. regulator normal?